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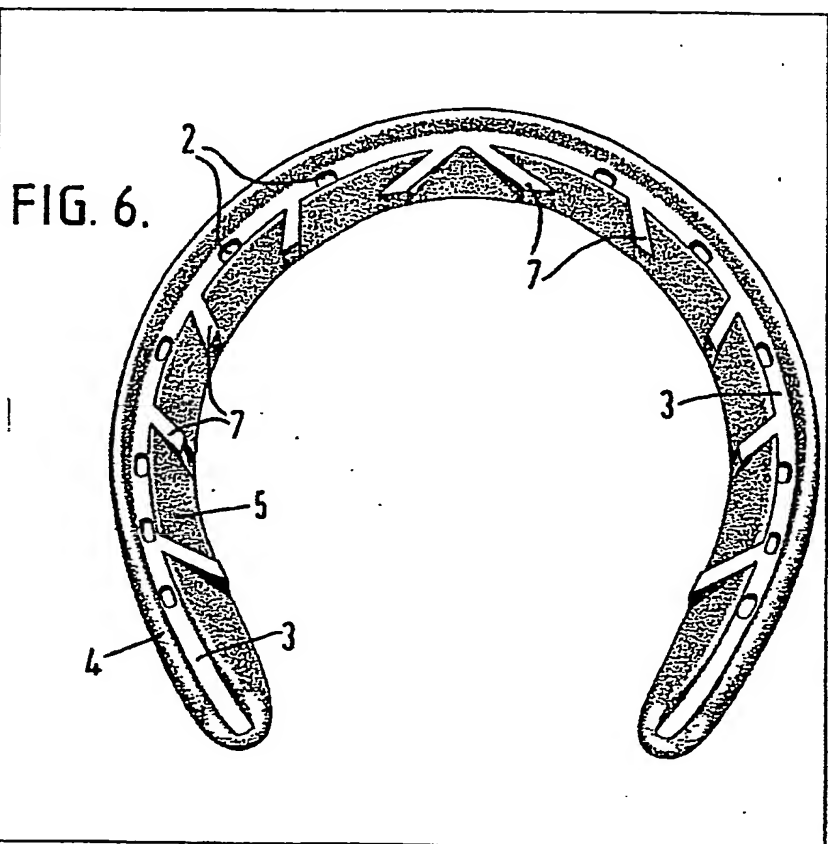
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(54) A horseshoe

(57) A horseshoe is provided with a  
plurality of projections (7) extending  
from a lower face thereof, to aid

traction between the horseshoe and a  
surface engaged by the lower face.  
The projections (7) may be of  
rectangular cross-section and inclined  
to radii of the horseshoe.



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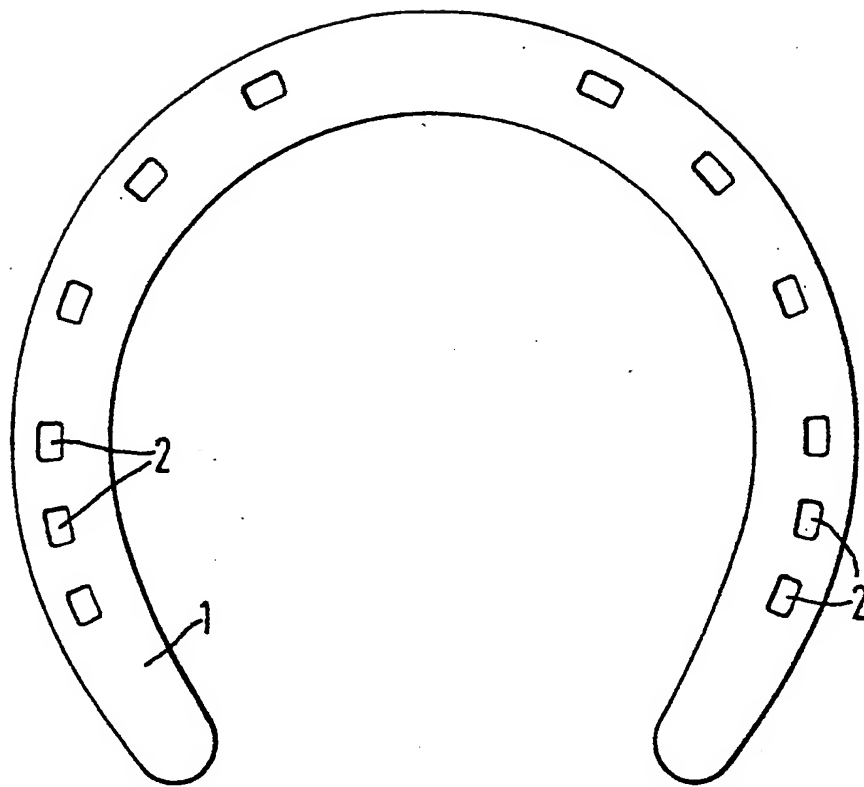


FIG. 1.

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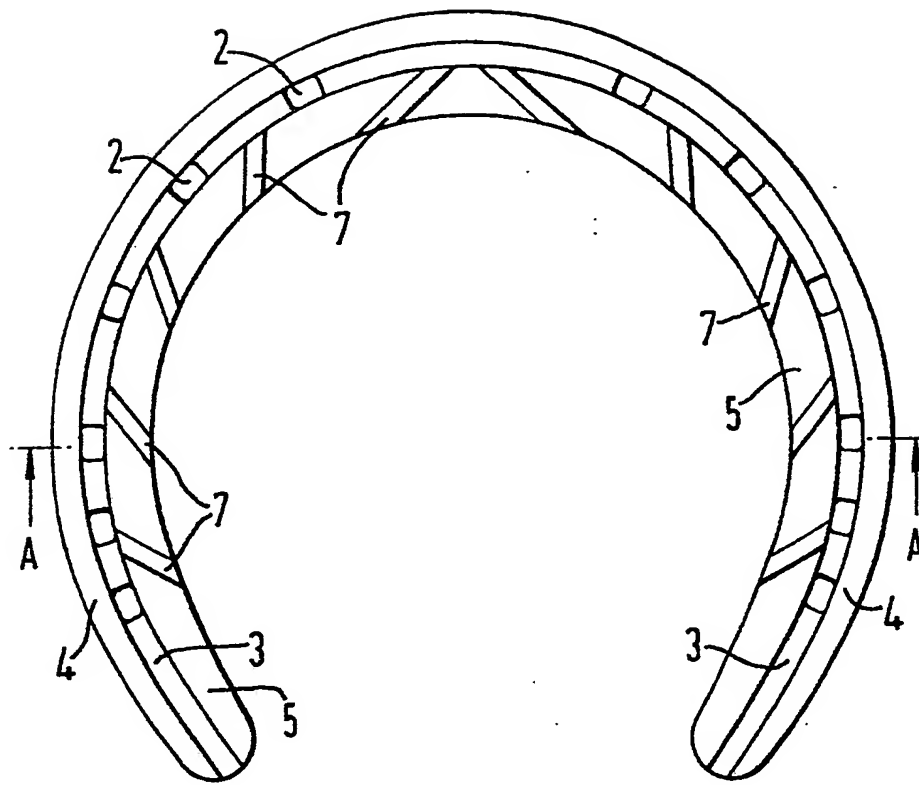


FIG. 2.

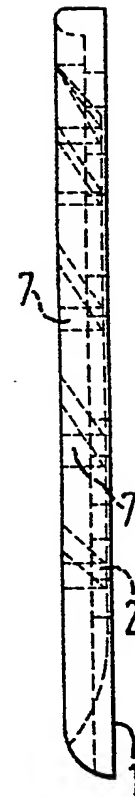


FIG. 3.

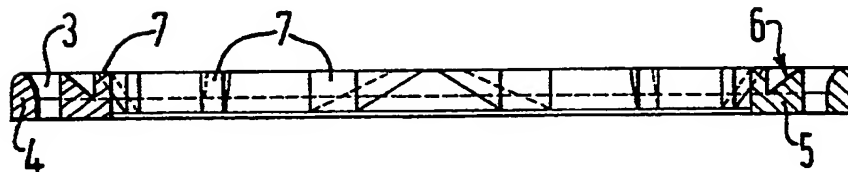


FIG. 4.

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FIG. 5.

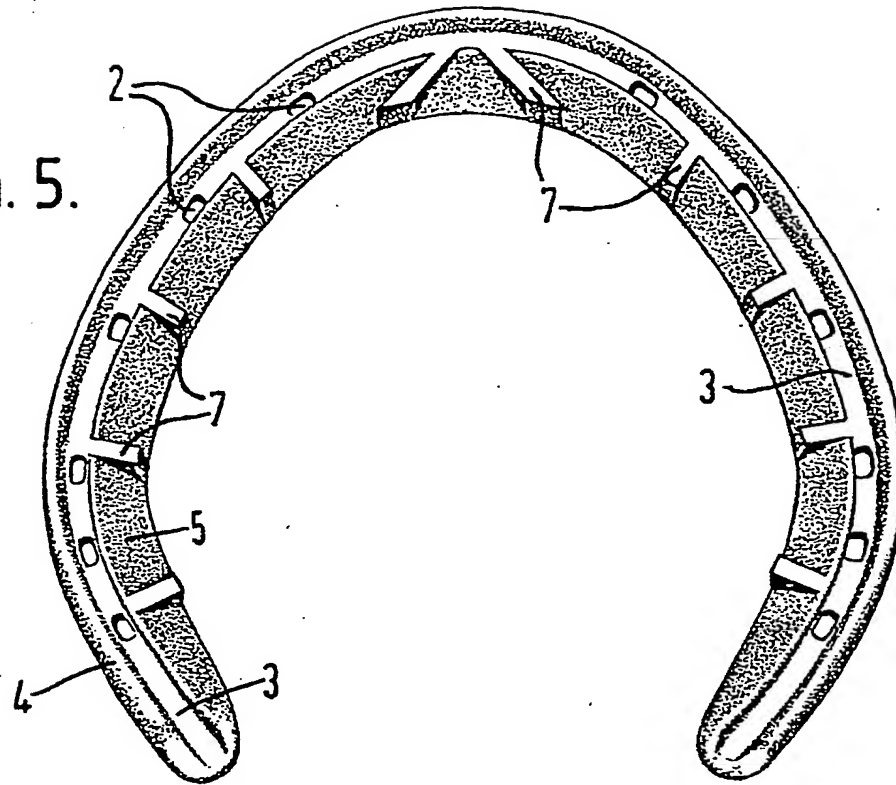
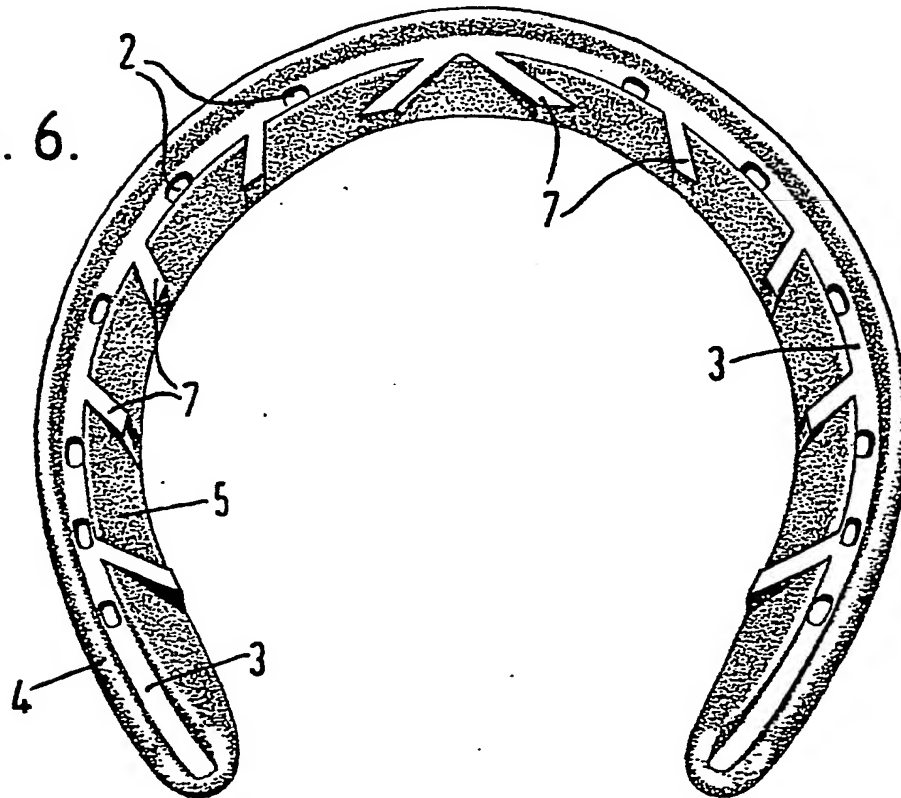


FIG. 6.



# SPECIFICATION Horseshoe

This invention relates to a horseshoe.

The shape of known horseshoes is a circular arc  
5 larger than a semi-circle. The horseshoe is  
provided with holes for nails. A channel extends  
around the horseshoe in a bottom surface thereof,  
and the holes for the nails open into the bottom of  
this channel. Thus, once the horseshoe has been  
10 fixed to a hoof by nails the heads of the nails do not  
protrude, but instead are located in the channel  
and are flush with the bottom surface of the  
horseshoe.

Known horseshoes are commonly made of iron,  
15 although a lightweight metal can be used for  
racing shoes or plates. Racehorses are commonly  
equipped with conventional iron shoes for training,  
and fitted with lightweight shoes only for racing.

Known horseshoes or plates provide little  
20 assistance to a horse in full gallop. Also, on  
slippery or soft ground, a horse may have difficulty  
in maintaining its footing.

According to the present invention there is  
provided a horseshoe, which includes a plurality of  
25 projections on and/or with a plurality of recesses  
in a lower face thereof, whereby in use traction  
between the horseshoe and a surface engaged by  
the lower face of the horseshoe is enhanced.

For a better understanding of the present  
30 invention, and to show more clearly how the same  
may be carried into effect, reference will now be  
made, by way of example, to the accompanying  
drawings, in which:

Figure 1 shows a plan view of the horseshoe  
35 according to the present invention;

Figure 2 shows the underside of the horseshoe  
shown in Figure 1;

Figure 3 shows a side view of the horseshoe  
shown in Figure 2.

40 Figure 4 shows a section along the line A—A of  
Figure 2; and

Figures 5 and 6 show the underside of two  
horseshoes according to the invention.

As shown in Figure 1, the horseshoe has a  
45 generally flat upper surface 1, and is provided with  
holes 2 for nails. As shown, these holes 2 can be  
rectangular.

Referring to Figure 2, the underside or bottom  
face of the horseshoe includes a channel 3, which  
50 extends around the entire horseshoe. An outer  
edge of the channel 3 is bounded by a portion of  
the shoe with a rounded lip 4 at its lower side,  
whilst the inner edge of the channel 3 is bounded  
by a portion 5 which has a surface 6 which slopes  
55 upwardly and radially inwards. Since the sectional  
view of Figure 4 shows the horseshoe upside-  
down, this surface 6 slopes downwards in  
Figure 4.

From this sloping surface 6 there projects ten  
60 projections or cleats 7. In this described  
embodiment, a vertical section through each  
projection 7 shows a generally rectangular cross-  
section (as shown on both sides of Figure 4). All  
the projections 7 are at an angle to a radius

65 extending from a centre of the horseshoe through  
the respective projection. Furthermore, the  
projections 7 are disposed symmetrically on either  
side of the horseshoe and are equally spaced  
along the sloping surface 6. All the projections 7  
70 except for the two projections 7 shown at the top  
of Figure 2 are so orientated, that, in use, when a  
horseshoe is driven backwards relative to the  
ground (i.e. in the downwards direction in Figures  
1 and 2), a wedge of ground is driven between  
75 each projection 7 and an adjacent part of the  
sloping surface 6, thereby improving the traction  
or grip of the shoe. For the two projections shown  
at the top of Figure 2, a wedge of ground is driven  
between these two projections to improve the  
80 traction. The number of projections and the  
orientation of each projection can be varied, and in  
particular it may be found that different  
arrangements are needed for different surfaces.

Each projection 7 could be 3 mm thick, and a  
85 bottom surface of the projection could be flush  
with the bottom of the nail channel 3, as shown in  
the drawings.

It is not necessary for all the projections 7 to  
have a similar cross-section. Combinations of  
90 projections 7 with different cross-sections can be  
used. Furthermore, in certain circumstances, it  
may prove beneficial to provide projections for the  
portion of the shoe outside the nail channel 3.

The horseshoes according to the present  
95 invention can be made from a variety of materials.  
In particular, iron, iron alloys, aluminium and  
aluminium alloys can be used. Conveniently,  
horseshoes according to the present invention can  
be cast in a mould which includes the shapes for  
100 the projections. Also, nylon or like substances can  
be used. Whatever material is used, the shape and  
arrangement of the projections may be varied to  
impart maximum grip and thrust. Generally, it is  
expected that one design will be suitable for both  
105 front and back rear shoes plates on a horse,  
although in certain circumstances it may provide  
beneficial to use different shaped shoes at the  
front and rear.

In the case of horses which are fitted with iron  
110 training plates and lightweight racing plates, it is  
suggested that the iron plates and the lightweight  
racing plates should have a similar arrangement of  
projections, in order that the horse can become  
thoroughly accustomed to any difference in feel  
115 for that arrangement.

The described embodiment is intended  
principally for racehorses, and is thus primarily  
intended to improve longitudinal traction between  
the shoe and the ground. For other uses, it may be  
desirable to arrange the projections 7 so as to  
120 provide improved traction or grip laterally.

Figures 5 and 6 show two different designs.  
The Figure 5 design is intended for use as a front  
racing plate, whilst the Figure 6 design is intended  
125 for use as a rear racing plate. In Figure 5, all the  
projections 7, except for the two foremost  
projections, are directed radially inwards. The  
Figure 6 construction is the same as that shown in  
Figures 2, 3 and 4.

## CLAIMS

1. A horseshoe provided with a plurality of projections on and/or with a plurality of recesses in a lower face thereof whereby, in use, traction between the horseshoe and a surface engaged by the lower face of the horseshoe is enhanced.
2. A horseshoe as claimed in claim 1, which includes a channel in the lower face extending between ends of the horseshoe and a plurality of openings for nails, which extend between an upper surface and the lower face of the horseshoe and which open into the bottom of the channel.
3. A horseshoe as claimed in claim 2, which includes a plurality of projections provided on a portion of the lower face which bounds a radially inner side of the channel.
4. A horseshoe as claimed in claim 3, wherein said portion has a sloping surface which extends upwards and radially inwards from the channel.
5. A horseshoe as claimed in claim 3 or 4, wherein each projection is elongate when viewed perpendicularly to the lower face of the horseshoe and is inclined to a radius extending from a centre of the horseshoe through that projection.
6. A horseshoe as claimed in claim 5, wherein each projection has a rectangular cross-section in a plane perpendicular to the lower face of the horseshoe.
7. A horseshoe as claimed in any preceding claim, wherein lower surfaces of the projections are flush with a bottom surface of the horseshoe.
8. A horseshoe as claimed in any preceding claim, which is formed of iron or an alloy thereof.
9. A horseshoe as claimed in any one of claims 1 to 7, which is formed of aluminium or an aluminium alloy.
10. A horseshoe as claimed in any one of claims 1 to 7, which is formed of nylon or other plastics material.
11. A horseshoe substantially as hereinbefore described with reference to and as shown in, the accompanying drawings.